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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,544	12/05/2003	Nicholas R. Watts	P17173	1914

7590 02/10/2006

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EXAMINER
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ANDUJAR, LEONARDO

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/729,544	Applicant(s) WATTS ET AL.	
	Examiner Leonardo Andújar	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15, 17-19, 21, 22, 34, 36, 37 and 39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15, 17-19, 21-22, 34, 36, 37 and 39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/17/2006 has been entered.

### ***Election/Restrictions***

2. Applicant's election without traverse of group I in the reply filed on 04/29/2005 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

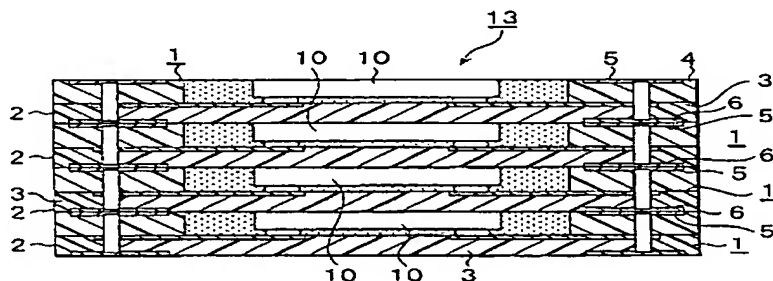
4. Initially, and with respect to claims 15, 19 and 37, it is noted that a "product by process" claim is directed to the product per se, no matter how actually made. See In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) and the related case law cited therein which makes it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here,

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an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. As stated in Thorpe, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. In *re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972); In *re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); *Buono v. Yankee Maid Dress Corp.*, 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935). Note that Applicant has burden of proof in such cases as the above case law makes clear.

5. Claims 15, 17, 18, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al. (US 6,548,330) in view of Sota (US 6,201,707).

6. Regarding claims 15 and 34, Murayama (e.g. fig. 6) shows an article of manufacture, comprising: at least two integrated circuit (IC) packages in stacked relation to each other, each of the IC packages including: a substrate an IC 10 mounted on a surface of the substrate 2; and a coverlay laminated on the surface of the substrate and having an opening; and at least one conductive connection 8 formed through one of the coverlays and connecting one of the ICs to another of the ICs wherein each IC is positioned in an opening of a respective one of the coverlays.



In regards to the method used to form the opening in the first/second coverlay such as photolithography, it is considered to be an intermediate process step that does not affect the structure of the final device. Although Murayama does not specify which materials can be used for making the substrate and the coverlay, it is well known in the art the use of flexible and thermally stable organic polymers to make IC substrates. In the instant case, Sato discloses that wiring substrates can be made from a variety of materials such as polyimide, polyamide, BT resin, epoxy and polyester. From the viewpoint of costs and ease of machining, it is preferable to use polyimide (col. 5/lls. 24-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the substrate of Murayama (e.g. layers 2/4) of a flexible and thermally stable organic polymer such as polyimide because it is a preferable material from the viewpoint of costs and ease of machining as taught by Sato.

7. Regarding claims 17, 18 and 36 Murayama in view of Sato shows that the substrate/coverlay are made of a flexible material such polyimide.

8. Claims 19, 21, 22, 37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al. (US 6,548,330) in view of in view of Sota (US 6,201,707) further in of Blumenau et al. (US 6,421,711).

9. Regarding claims 19 and 37, Murayama (e.g. fig. 6) shows an apparatus comprising: a stacked integrated circuit (IC) package which includes: a first substrate 1; a first IC 10 mounted on a surface of the first substrate; a first coverlay 4 laminated on the surface of the first substrate and having at least one opening; a second substrate 1 positioned in stacked fashion on the first coverlay; a second IC 10 mounted on a

surface of the second substrate; a second coverlay 4 laminated on the surface of the second substrate and having at least one opening; and at least one conductive connection 7/8 connecting the first IC to the second IC and passing through at least one opening in the first coverlay; wherein: the first IC is positioned in an opening in the first coverlay, all of the first IC being in said opening in the first coverlay; and the second IC is positioned in an opening in the second coverlay, all of the second IC being in said opening in the second coverlay. In regards to claim limitation referring to the process used to make the opening in the first/second coverlay such as photolithography, it is considered to be an intermediate process step that does not affect the structure of the final device. Although Murayama does not specify which materials can be used for making the substrate and the coverlay, it is well known in the art the use of flexible and thermally stable organic polymers to make IC substrates. In the instant case, Sato discloses that wiring substrates can be made from a variety of materials such as polyimide, polyamide, BT resin, epoxy and polyester. From the viewpoint of costs and ease of machining, it is preferable to use polyimide (col. 5/lls. 24-33). Also, Murayama does not teach a communication device couple to the first IC. Blumenau discloses a communication device such wireless data transceiver is couple to a chip to permit remote interrogation (col. 37/lls. 4-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the substrate of Murayama (e.g. layers 2/4) of a flexible and thermally stable organic polymer such as polyimide because it is a preferable material from the viewpoint of costs and ease of machining as taught by Sato and to connect a communication device such wireless data transceiver

to the first and/or second IC disclosed by Murayama in view of Sato to permit remote interrogation of the chip as taught by Blumenau. Note that the first and second substrates are equivalent.

10. Regarding claims 21, 22 and 39 Murayama in view of Sato further in view of Blumenau shows that the substrates/coverlays are made of a flexible material such polyimide

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 15, 17-19, 21-22, 34, 36, 37 and 39 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

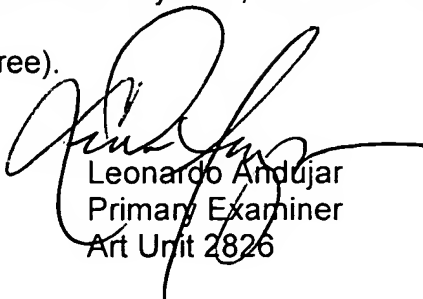
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonardo Andújar whose telephone number is 571-272-1912. The examiner can normally be reached on Mon through Thu from 9:00 AM to 7:30 PM EST.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Leonardo Andujar  
Primary Examiner  
Art Unit 2826